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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,251	03/08/2004	Koichi Itoh	CUNO-673.1	2373

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EXAMINER

KIM, YOON YOUNG

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,251

Applicant(s)

ITOH ET AL.

Examiner

Yoon-Young Kim

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>06/10/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-7, 11-18, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hidano et al., U.S. Patent No. 5,506,389.

Regarding Claim 1, Hidano discloses a reinforcement structure for use with a filter cartridge, comprising an elongated backbone (#18) have a bottom surface and a top surface, at least one hook boss (#20a), and a plurality of non-hook bosses (#20b) extending from the bottom surface.

Regarding Claim 2, Hidano discloses that plurality of hook bosses (#20a) extend from the bottom surface of the elongated backbone and wherein the plurality of hook bosses includes first and second hook bosses each being located at or near a respective end of the elongated backbone (Fig. 5A).

Regarding Claim 3, Hidano discloses that a plurality of hook bosses (#20a) extends from the bottom surface of the elongated backbone and wherein said plurality of hook bosses includes one or more intermediate hook bosses (Fig. 5A).

Regarding Claim 4, Hidano discloses that one or more intermediate hook bosses (#20a) are positioned inwardly of the respective ends of the elongated backbone (Fig. 5A).

Regarding Claim 5, Hidano discloses that one or more intermediate hook bosses (#20a) are positioned at or near the midpoint of the elongated backbone (Fig. 5A).

Regarding Claim 6, Hidano discloses that the plurality of non-hook bosses (#20b) are spaced along the elongated backbone (Fig. 5A).

Regarding Claim 7, Hidano discloses that the plurality of non-hook bosses (#20b) are dimensioned to be slightly narrower than the space defined between cells of a filter cartridge (#17) to which the reinforcement structure is to be attached (Fig. 6).

Regarding Claims 11-16, Hidano discloses a filter cartridge assembly, comprising a filter cartridge (#17) and a plurality of reinforcement structures (#18) detachably secured thereto (Fig. 6).

Regarding Claim 17-18, Hidano discloses that the plurality of reinforcement structures (#18) are detachably secured to the filter cartridge in a circumferentially spaced manner wherein the circumferential spacing is from about 30° to about 120° (Fig. 6).

Regarding Claim 20, Hidano discloses that the filter cartridge (#17) is a multi-cell filter cartridge (Fig. 6).

Regarding Claim 21, Hidano discloses a method for preventing distortion of a multi-cell filter cartridge (#17) under arduous operating conditions which comprises providing a filter cartridge comprised of a plurality of cells vertically stacked one upon the other with a reinforcing structure (#18) detachably secured vertically along the outer circumference of the cartridge.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hidano as applied to Claim 1 above, and further in view of Naruo et al., U.S. Patent No. 4,871,456.

Regarding Claims 8 and 10, Hidano does not disclose that the reinforcement structure is made from plastic. Naruo teaches a reinforcement structure made from a plastic material consisting of polypropylene and polyethylene (Col. 5, Lines 22-29). It would have been obvious to one of ordinary skill in the art to modify Hidano with the element of Naruo because it is a material of manufacture common in the filter art.

Regarding Claim 9, determination of patentability in "product by process" claims is based on product itself. In re Thorpe, 227 USDQ 964 (1985). The fabrication method of Hidano is deemed to be a structure alternative to the injection molding process.

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5. Claim 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Hidano as applied to Claim 11 above, and further in view of Diemer et al., Pub. No. US 2003/0159981 A1.

Regarding Claim 19, Hidano does not disclose opposition to distortive forces. Diemer teaches reinforcement structures that impart tensile and compressive forces in opposition to potential distortive forces encountered by the filter cartridge (Paragraphs 18 and 43). It would have been obvious to one of ordinary skill in the art to modify Hidano with the element of Diemer in order to produce a stable filter that cannot be distorted (Paragraph 18).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yoon-Young Kim whose telephone number is (571) 272-2240. The examiner can normally be reached on 8:30-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YK
03/03/06


JOHN KIM
Primary PATENT EXAMINER